

## REMARKS

This application has been reviewed in light of the Office Action dated May 2, 2006. Claims 1-17, 51-58, and 72-101 remain pending in this application. Claims 1, 51, 72, 76, 77, 82, and 84 are in independent form. Favorable reconsideration is requested.

Claims 5-9 and 53 were objected to for depending on a rejected base claim, but would be allowed if rewritten in independent form. However, those claims have not been so rewritten at this time because the respective base claim from which each depends is believed to be patentable, for the reasons given below.

According to the Office Action, Claims 1-4, 13, 14, 17, 51, 52, 56, 72-85, 87, 91, 95 and 99 are rejected under 35 U.S.C. 102(e) "as being anticipated by *Sharma* (U.S. Patent No. 5,717,795)." Claims 10-12, 54, 55, 86, 89, 90, 93, 94, 96, 98, and 100 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 6,477,288 (*Sato*). Claims 15, 16, 57, 58, and 101 have been rejected under 35 U.S.C. 103(a) as being unpatentable over *Sato* in view of U.S. Patent No. 5,986,783 (*Sharma et al.*).

Initially, the Section 102(a) rejection appears to be based on *Sato* rather than U.S. Patent No. 5,717,795, because the reasons set forth in section 2 of the Office Action to support the rejection cite portions of the *Sato* patent, not U.S. Patent No. 5,717,795. Accordingly, the following detailed remarks address the independent claim in view of *Sato*.

Claim 1 is directed to a communication network, including, in part, a plurality of first communication paths, a plurality of second communication paths, and a plurality of nodes. Adjacent ones of the nodes are coupled together through first

communication paths and second communication paths. Each node comprises a plurality of switches, at least one multiplexing/demultiplexing device, and at least one controller.

The plurality of switches includes a first switch and a second switch, each having at least one first terminal, at least one second terminal, at least one third terminal, and at least one fourth terminal. The first terminal and the second terminal of the first switch are coupled through first communication paths and second communication paths, respectively, to a first, adjacent one of the nodes. The first terminal and the second terminal of the second switch are coupled through other first communication paths and other second communication paths, respectively, to a second, adjacent one of the nodes. The third terminal of the first switch is coupled to the third terminal of the second switch through at least one third communication path.

Notable features of Claim 1 are that the first switch is coupled through first communication paths and second communication paths, respectively, to a first, adjacent one of the nodes, and the second switch is coupled through other first communication paths and other second communication paths, respectively, to a second, adjacent one of the nodes. Also, each first communication path is a working path and each second communication path is a protect path.

Thus, as can clearly be understood, according to Claim 1 each switch is coupled through *both* plural first communication paths and plural second communication paths, to corresponding adjacent nodes, wherein each first path is a working path and each

second path is a protect path. *See*, for example, Fig. 3.<sup>1/</sup> *Sato* is not understood to teach or suggest these features.

Page 7, section 7 of the Office Action states:

"Applicant's arguments filed 2/6/06 have been fully considered but they are not persuasive. The applicant argues that the cited reference fails to specifically teach the claimed first and second communication paths. However, the examiner disagrees. *Sato* clearly teaches these limitations as noted in prior office action and reiterated in this office action."

Pages 2-3 of the Office Action elaborate, by asserting that *Sato* teaches:

"... the first terminal (penultimate circle from top of switch 13 in Figure 5A) and the second terminal (uppermost circle from top of switch 13 in Figure 5A) of said first switch are coupled through first communication paths (reference numeral 5 in Figure 5A) and second communication paths (reference numeral 7 in Figure 5A), respectively, to a first, adjacent one of the nodes (e.g. nodes to the left of the node of Figure 5A), the first terminal (penultimate circle from top of switch 14 in Figure 5A) and the second terminal (uppermost circle from top of switch 14 in Figure 5A) of said second switch (reference numeral 14 in Figure 5A) are coupled through other first communication path (rightmost reference numeral 5 in Figure 5A) and other second communication path (rightmost reference numeral 7 in Figure 5A), respectively, to a second, adjacent one of the nodes (e.g. nodes to the right of the node of Figure 5A)...."

However, as pointed out previously, and as can be appreciated in view of

Fig. 5A and col. 14, lines 49-51 of *Sato*, switch 13 is connected to a component external to the optical line switching system 40 through only a working single fiber 54 and only a

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<sup>1/</sup> It should be understood, of course, that Fig. 3 is referred to herein for illustrative purposes only, and the claims should not be construed as being limited only to the embodiment depicted.

single protection fiber 7, which together form a pair "through which the optical signals are transmitted in the opposite directions...". Also, switch 14 is similarly connected to a component external to the optical line switching system 40 through only a single working fiber 5 and only a single protection fiber 7, where optical signals are transmitted in the opposite directions by virtue of the respective paths 5 and 7. In Claim 1, on the other hand, each switch is coupled to plural first communication paths and plural second communication paths.

Nothing in *Sato*, is understood to teach or suggest those features in the context of the communication network set forth in Claim 1. Therefore, that claim is believed to be clearly patentable over *Sato*, and thus withdrawal of the Section 102(e) rejection of Claim 1 is requested.

If, despite the above remarks, the Examiner still refuses to withdraw the rejection, he is respectfully requested to point out specifically where in *Sato* there is a teaching of switches that are each coupled to both plural first communication paths and plural second communication paths.

Independent Claim 51 is a node claim having features similar in many relevant respects to those of Claim 1 emphasized above, and also is believed to be clearly patentable over *Sato* for the same reasons as those set forth above with respect to Claim 1.

Independent Claim 72, as amended, recites, in part, that at least one of the switches of at least one of the nodes is coupled to at least one of the switches of at least one other of the nodes through *at least two* working sub-paths and *at least two* protect sub-paths. (Emphasis added).

As pointed out above, in Fig. 5A of *Sato*, switch 13 is connected to a component external to the optical line switching system 40 through only a single working fiber 5 and only a single protection fiber 7, and the other switch 14 is connected to a component external to the optical line switching system 40 through only a single working fiber 5 and only a single protection fiber 7. Nothing has been found, or pointed out in *Sato* that would teach or suggest the above-emphasized features of Claim 72. Accordingly, that claim is believed to be clearly patentable over *Sato*.

Independent Claim 76 recites, in part, at least one external communication path including at least two working sub-paths and at least two protect sub-paths, and at least one switch of a line node coupled to the at least two working paths and the at least two protect paths. Independent Claim 77 recites, in part, that the communication paths include at least two working sub-paths and at least two protect sub-paths, and at least one of the switches of the least one node is coupled to at least one of the switches of at least one other of the nodes through the at least two working sub-paths and the at least two protect sub-paths.

Again, as pointed out above, each switch 13 and 14 depicted in Fig. 5A of *Sato* is connected to only a single working fiber and only a single protect fiber. Nothing has been found, or pointed out in *Sato* that would teach or suggest the foregoing features of Claims 76 and 77 relating to each switch being coupled to at least two working paths and at least two protect paths. Therefore, Claims 76 and 77 are believed to be clearly patentable over *Sato* as well.

Independent Claims 82 and 84 recite features that are similar in many relevant respects to those of Claim 77 emphasized above, and also are believed to be clearly patentable over *Sato* for the same reasons as those set forth above with respect to Claim 77.

A review of both *Sharma et al.* patents has failed to reveal anything which is understood to remedy the above-described deficiencies of *Sato* against the independent claims herein. Accordingly, those claims are believed to be patentable over both of those references as well.

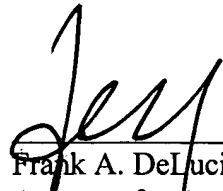
The other pending claims in this application are each dependent from one or another of the independent claims discussed above and also are believed to be patentable over the art relied on in the Office Action for the same reasons as are those independent claims. Since each dependent claim is also deemed to define an additional aspect of the invention, however, the individual reconsideration of the patentability of each on its own merits is respectfully requested.

#### CONCLUSION

In view of the foregoing amendments and remarks, Applicants respectfully request favorable reconsideration and early passage to issue of the present application.

Applicants' undersigned attorney may be reached in our New York office by telephone at (212) 218-2100. All correspondence should continue to be directed to our below listed address.

Respectfully submitted,

A handwritten signature in black ink, appearing to read 'Frank A. DeLucia', is written over a horizontal line.

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